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CYCLING AS AN AID TO HOME DEFENCE.

*By Major-General Sir F. MAURICE, K.C.B., p.s.c., R.A.,
Commanding Woolwich District.*

Wednesday, 22nd May, 1901.

His Grace the DUKE OF NORFOLK, K.G., A.D.C., Hon. Colonel
5th Bn. Northumberland Fusiliers, in the Chair.

I AM not quite sure that I ought not to begin by apologising for the title of this lecture. I do not think the number of people to whom I have to apologise is very great. We have just lately in the House of Commons had reason to think them few; but still there is a certain section, of whom certainly our distinguished representative of the Navy immediately before me is not one, who look upon it as an iniquity to talk about any form of land defence for England at all. We soldiers fully understand, one and all of us, our dependence on the Navy. I can answer for it, because I myself passed through a period when it was supposed to be an effective attack on me to say that I belonged to the Naval School, though I was a soldier. It was then discovered that I was not exceptional in that respect, because every soldier is of the Naval School in the same sense that I am, namely, that we trust the Navy for their share of the work. Nevertheless, most naval men themselves think that it is none the less our duty to have a second string to our bow; that the inhabitants of this island ought not to remain absolutely passive, great as is our reliance upon the protection given us by the Navy. They believe that we are bound to do something ourselves for our homes in order to provide against even a temporary lapse in the security which the

Navy affords. If we are to do that, I look upon it as certain that there is no cheaper way than that about which I am to speak to you to-day. I shall hope to develop that view in the course of my lecture.

I believe that about 13 years represent the time during which, as an actual military factor in England, bicycling has been used in our Regular and Volunteer forces. A long time previous to that a good many of us had had our attention directed to the importance of military cycling. My friend Colonel Balfour, who was my chief staff officer during the Cycling Manœuvres in Sussex, who is here to-day, gave recently a very careful history of all the previous attempts that had been made to use cycles for military purposes, so that I may refer to that and pass on. A great many people had a hand in bringing cycling to such perfection as we have been able to attain, almost all of them connected in the earlier stages either with the 26th Middlesex, which has been the special Cycling Corps, or with the London Scottish, of whom Colonel Balfour is the head. But during that time the cycle was treated as useful almost only for scouting purposes, and if it was used for anything else it was on a very small scale. We passed through a stage during which the cycle, as a means of military movement, was simply scouted. We were asked whether cycles could go across country, whether they could charge, and various other questions, hopelessly irrelevant to the point at issue, were put to its advocates. But I think it is safe to say that, although this Boer War has not for the first time taught the fact to many of us who have been much considering such problems, it has brought home to the English people at large the truth that the possibility of moving about an army, what we call "mobility," facility of getting to a given point in a given time, is one of the most important elements of warlike efficiency with every branch of the Service. It always has been important to be able to move armies with facility. In the days of Napoleon, and long before, it was true that "legs won more battles than arms."

But beyond all question the enhanced defensive power which has been given, to the infantry especially, by their new arms, and to the Army generally by the general change of weapons, has made facilities for the rapid transfer of force more important than ever. Rapid transference of defensive power became in the 1870 campaign an agent so important in offence that I do not think it is an exaggeration to say that the entire Regular French Army was captured and carried off into Germany because of the superior mobility of the German Army over the French, and the enormous defensive power which it exhibited, that is to say, that the capture of the French enclosed in Metz, and the capture of the French enclosed in Sedan, were phenomena so startling to every soldier who had been accustomed to the previous conditions of war, that they represented for us lessons which have been only re-enforced in the

present campaign. I suppose that everybody who has followed Lord Roberts' march from Bloemfontein to Pretoria recognises that it was to that extraordinary defensive power that he was able to trust in the case of the very slender forces strung out before the Boers. It enabled him to develop a large surplus on both flanks, and successively turn the Boer positions. The enormous extension would, even in the presence of such a force as the Boers, have been fatal had it not been for the present development of weapons. They would, much as it was against their habit, have been tempted to attack and break the slender line but for the defensive power of the rifle.

Now, there are certain conditions under which there is no agent for transferring force so effective as the cycle. The distance along good roads that the cycle can convey troops far surpasses anything that the horse can do. During the manœuvres in Sussex last year, some of the distances that were traversed by certain troops were startling. The 2nd Warwickshire Volunteers rode from Coventry to Hendon, a distance of 100 miles, on Saturday, August 4th. On Sunday they rode from Hendon to Cuckfield, a distance of 75 miles. Their ride from London had been in the rain all day, and they did not seem to be fatigued. One of their men went the same evening to Hurstpierpoint and back with orders, a further distance of 14 miles. It is obvious that there is no cavalry in the world which can touch that. They did excellent work on the Monday. The 1st Royal Sussex rode from Bisley to their billets at Burgess Hill on Saturday, and then acted as cycle orderlies all along the Billingshurst Cross Road to conduct detachments to their billets. The Cyclist Bearer Section of the Woolwich Companies of the Volunteer Army Medical Corps, on Saturday, August 4th, rode from Perham Down, 80 miles as the crow flies, to Horsham. They rode from Horsham to Cuckfield on Sunday, and then took part in the manœuvres both on Sunday and Monday. The forces from the South-Eastern District moved from Shorncliffe to the line of the Ouse, a distance of 62 miles in one day. Those are distances which represent the enormous facility which the cycle gives for the transfer of forces along good roads. In England we are in this favourable condition, that we have in all directions not merely good roads, but roads lying so closely together that in the Sussex district there were practically good cycling roads all along the line only three-quarters of a mile apart. It is tolerably obvious how great is the gain if you are able to deliver troops with that rapidity of movement in such numbers as may be moved along many roads along a wide front. There were 24 miles at the particular point where I was trying it, with roads throughout leading to the front within three-quarters of a mile of one another. As the country between the roads is for the most part of a peculiarly defensible quality, if you are able to move even moderately large numbers along each of

the several roads, you would have in the aggregate a force which it would be extremely inconvenient for an enemy to ignore.

Therefore, I think that if there are obstacles in the way of creating Cycle Corps, it is worth while to remove them. Looking at the large question of the defence of the kingdom, I cannot see that there is any doubt that one difficulty we shall always have will be that of gaining time. If we can gain time we shall always be able with ample resources to meet any force that lands. If it be possible, wherever an enemy lands, to do what we were able to do at Brighton, namely, deliver forces from a distance of at least 150 miles on either flank within striking distance of an enemy's landing by means of the cycle before he is ready to meet them, then in such enclosed country as we have in England, having available men who know all the different districts perfectly, we shall be able to impose a delay which would most seriously hamper an enemy. I said in my report on the Cycle Manœuvres in the Brighton district last year, that I feel perfectly convinced, from what we were able to do, that no Army pushing up in that district—and it is very much the same as most other districts in England—would have been able to advance against the force which could be delivered by cycles alone, at a more rapid rate than 4 miles a day. If we can enforce that delay there is plenty of time to get ready a striking force; even if we are almost as denuded as we were last year.

There are unquestionably certain difficulties in the way of cycling development in England, and the first of them is that curious conservatism with which we in England receive anything that is new. It applies to us all. There are two stories with which I am fond of illustrating that point. Some of you may have heard that when Sir Walter Scott was staying in London on a certain occasion, he wrote to a friend in Scotland, in language rather more expletive than I should quite care to reproduce to the effect that "There is some horrible fool here in London who is actually proposing to light the streets of London with gas, and what is yet more amazing, there are some other yet more absolute idiots who are going to let him try his hand at it." You all perhaps know that Lord Derby, the Premier, undertook to eat the boiler of the first steamer that crossed the Atlantic. Those were two perfectly representative men. They were neither of them men more lacking in common sense, to use the mildest term, than any of us. Sir Walter Scott and Lord Derby are not names to be treated with contempt; and if they were capable of that sort of resistance to anything new, I think it is tolerably safe to say that that is a national characteristic which we have to recognise. It always has been so and always will be so, and many of our most valuable national qualities have been born of that sort of conservatism; but, as we are feeling in all the commercial relations of

life, our kinsmen across the Atlantic are running away from us because they meet novelties in exactly the opposite way, and do everything they can to encourage anyone who has something new to bring forward, provided he will have it tested and tried. I think it is necessary that in all cases, not merely military, we should "wake up" to recognise that the world does not stand still, that we must move, accept situations as they arise, and face them under the conditions of the day.

Then there is another difficulty, which I can best express by saying that we all of us have our Little Peddlings, and that we all want to heave half a brick at anybody who lives outside. I do not think that is altogether peculiar to England. There is a very great difficulty when any quite new thing has to be started, that all those who are in possession of the field in other ways think it their particular business not to help it along, but to heave a brick at it. It was so in a measure with regard to the Volunteer force when it first came into existence, but it has none the less proved to be of the greatest assistance to the Army, even if—which is certainly not true of it—in nothing else, then in awakening the patriotic enthusiasm of the country, and that patriotic devotion of which we have had such splendid examples during the last year, and in assisting in obtaining for the Regular Army such development as it has had. But what I want specially to insist upon is, that if we are going to utilise any new force, then we cannot put it into a Procrustean bed fitted exactly to our own previous impressions and prejudices, and say "You have to exactly lie in this, or you shall be split from top to bottom." With regard to any force that is employed outside the Regular forces, you must take account of the special conditions which will enable those who wish to help you to do so. I mention that particularly for this reason: I have hitherto spoken only of the manœuvres in Sussex last year, but just lately there have been some other Cycle Manœuvres, those at Easter, and the purpose for which I now mention them is that they illustrate this difficulty, because the conditions which are necessary for any Volunteer force to be able to co-operate in any work that has to be done were (I doubt not from accidental causes) not taken into account before the Volunteers were called on for those manœuvres. My experience in Sussex showed me, as one might have known beforehand, that it is necessary to give Volunteers ample time in order to make the arrangements which are necessary to enable them to contribute their patriotic assistance and make the sacrifices they have to make in order to be ready to give us help. I should have wished very much that we could have had this year some further cycling manœuvres, but I am quite sure that, though it may be desirable to try the cycles further on a small scale again this year, yet, for anything on a large scale, it is necessary to wait until next year, because if you try to arrange for any combined manœuvres of Volunteers you must give each Volunteer

time to settle beforehand with his employers. Even during the Brighton manœuvres, although we tried to give the earliest possible notice, we found that a very large number of Volunteers were unable to attend because their plans had been already fixed. As a rule, I think it is tolerably safe to assume that a year's notice ought to be given if you expect to get any large number of Volunteers away from their employers for a particular day in the year. The different Volunteer organisations usually find it necessary to make their arrangements a year in advance.

Then we have had lately brought before us the question of rifle clubs. Certainly I should be very sorry indeed to pour cold water upon the efforts of a number of individuals all over the country to make themselves good rifle shots. I think the more good rifle shots we can get in the country the better; but it is perfectly certain that the mere fact of their making themselves into rifle shots will not enable them to become adequate defenders of the country, and that, in some respects, the formation of these different "town guards," of which we have heard, tends to propagate amongst the civil population of the country a most dangerous idea of the mode in which England can be safely defended. I found when I went to a meeting at Birmingham of the representatives of the nascent rifle clubs, that the moment I suggested the question of their using cycles in combination with their rifles, in order that they might transfer their forces to the points where an enemy was actually landing, or was likely to land, the answer was: "Why should we from this very populous district of the North and the Midlands move down for the defence of London?" If it were only for that reason alone, merely to get into their heads the fact that if we want to defend England we must meet the enemy wherever he is, and not attempt to oppose to him a defence scattered all over the country, it would be an enormous advantage to us, to persuade them to use a means of mobility with their rifle. The attempt to combine the cycle with the rifle tends to make people realise that they are wanted to move, and not merely to stand still, and for that reason, if for no other, I am very much inclined to urge rifle clubs, wherever they are, to form themselves into cycle clubs at the same time that they form themselves into rifle clubs. As soon as they do, I am quite sure they will also find that that implies unity of action and co-operation amongst themselves. The element of discipline will then be seen to be essential to the work which has to be done.

I venture to suggest that there is some danger—not certainly in this audience, but in the country—that the experiences of the present war may in this respect mislead. There is an impression abroad, because we have found it extremely difficult to dispose of the resistance of a number of Boer farmers, that therefore, if we can only get a number of English riflemen all over the country we can very considerably improve the

defence of England. Well, I think there is one simple illustration that may bring pretty effectually home to the minds of the nation that that is scarcely so. There was a time when a great financier had the question put to him, "What would happen if the Bank of England was occupied by a foreign Power?" His famous answer, "That must never be," is obviously true. He meant, that supposing that that were to happen, it would be a stroke at the very centre of our whole commercial life, and would be practically the death blow of England, or at any rate a blow from which we should have incalculable difficulty in recovering. What I want to suggest is, that nothing the Boers have done throughout this war has for more than a relatively short time prevented our Army from going wherever it wanted, that it has marched into Bloemfontein, into Pretoria, and into other places wherever it required to go. Therefore resistance, such as that made by the Boers, would not have protected the Bank of England from the invading Army. On the other hand, I think it is necessary that we should realise that we may obtain very great value, at least for delaying purposes, out of a body which is something other than a rigidly controlled military force. If we can get sufficient unity and sufficient co-operative action among a number of men who can take advantage of our close country to impose delay upon an enemy, it is sufficient for us without their being under precisely the form of unity which we find necessary for soldiers. A Regular Army requires a form of training much more rigid than is needed for a body that is merely intended to impose delay and to hamper the movements of an enemy, and such a body might be created, composed of men who could not give up their time even to the regular infantry drill of the Volunteers. My view of the case is, that we want people, whom I should like to call Cycle Riflemen, drilled so far as to be able to move in tolerably close bodies on their cycles along a road, but, so far as their actual fighting is concerned, trained chiefly to take up positions in comparatively small numbers and to fall back under the protection of other forces of the same kind, or to surprise an enemy by appearing suddenly on his flank, and to do other similar work of that kind. All the drill necessary is to enable considerable bodies to move in a concentrated form along a road. Everything else is a question of actual tactics of such a kind as they would be very much interested in and enjoy, and such as could be carried out in a comparatively small number of days in the year. At all events, I can give my own experience that the very first day I tried a number of civilian cyclists at Woolwich, with the co-operation of Captain Barclay and of certain non-commissioned officers of the 10th Hussars, who worked with them, the following incident happened. I had detailed a captain of infantry, with a company as strong as it could be made up, to halt on the east side of Shooter's

Hill, on the road leading to Blackheath. He had thus to move over a hill directly westwards into Blackheath. Soon after the crest of Shooter's Hill is reached, the ground on either side of the road opens out into woods and cover of a pretty marked character. I told the captain that he would find himself opposed by a number of cyclists partly in civilian clothes and partly in uniform. They were, in fact, some of the cyclists of the 10th Hussars, and some of the cycling clubs who had been trained by the Hussars. I further told him that he was to take as his signal for beginning his movement for forcing his way on to Blackheath, where he was to sleep that night, the fact of a certain number of cyclists appearing on the crest of the hill, and some of them beginning to shoot at him. Shooter's Hill is particularly steep; the ground westward at the foot of it is level, and a little beyond where it becomes level the main road is crossed by a road, one branch of which goes south to Eltham, and the other branch north to Woolwich Common. The cyclists who were to carry out the manœuvres against the infantry company were divided into three parties—Reds, Whites, and Blues. Their orders were that, as soon as the infantry began to advance against them, they were to come down from the top of Shooter's Hill, as hard as they could ride, down the Shooter's Hill Road, till they reached the cross-roads. There they were to divide. The "Reds" were to go straight down the road, and take up a position at the end of the straight part of it. From thence they could fire straight up the road down which the infantry must advance. The "Whites" were to swish round to the left, that is, to the south, where they were to drop their cycles at an assigned corner, and take up a position from which they could, in concealment, fire upon the Shooter's Hill Road from the south. The "Blues" were similarly to move north to Woolwich Common. The cyclists came rushing down the hill as soon as the infantry captain advanced against them. As he saw the cyclists running away from him he thought he had nothing to do but to push on and pursue them into Blackheath. The consequence was that when he came half way down the hill and was fairly within view of the cyclists in concealment, they fired straight into his column of fours after letting the advance detachment pass them. I do not think many of the company could have escaped. I had been watching at the corner to see what would happen, and I rode up to him and asked what he had been doing. He told me the story that I have told you, that he thought he was only pursuing, and had therefore taken no precautions against what had happened. I said, "For goodness sake, get your flanks properly scouted now." He threw out his scouters, to scout for the cyclists who were in cover on both sides of the road. The dismounted cyclists slipped away and mounted their cycles at the point where they had left them, but perhaps remained a little too long. The

Herbert Hospital is at the corner where the cross-roads I have described meet. Behind it, parallel with the main road, there is a by-road. The "Whites" were able to slip down this side road quite out of the fire of the infantry pursuing them. The infantry had seen them go that way, and followed them down. Half of the infantry company went that way and the other half on the other side, north of the Shooter's Hill Road on to Woolwich Common. The southern half company followed the cyclists down the by-road. The cyclists on the main Shooter's Hill Road, the "Reds," finding the road now clear, advanced along it, and passing round the Herbert Hospital slipped behind the infantry. The whole of this half company were thus encircled in a fire which they could not possibly face, and from all I could hear on all sides, very few of them would probably have escaped on this second occasion.

What I suggest is, that a few simple manœuvres of that kind could be very easily practised. I had, a quarter of an hour beforehand, told Captain Barclay, the officer of the 10th, who had been working with these cyclists, exactly what I wanted him to do. With very little instruction, and instruction which it would be easy to give, such as they would greedily receive, it would be quite possible, with the very intelligent men whom I have found among the cyclists, and as I think, as a rule, the body of cyclists are, to make them a very awkward force for any advancing body to despise, as they were despised by the infantry on that occasion. They could make themselves in the highest degree inconvenient, to say the least.

It has been my fate to carry out examinations for promotion of somewhere about 100 officers during the last few years, from major to lieutenant-colonel, and for many years past I have almost invariably thrown in a pinch of cyclists to be dealt with if I possibly could. I generally find that the fact of having cyclists to deal with is an excellent test of an officer understanding his business, partly because the question has not been thoroughly considered in its various aspects. Many officers have never thought of the problem before, and it comes as a novelty to them. Some of the mistakes that are made are funny beyond description.

I have had cavalry screens sent out in good fan fashion, right through woods held by cyclists, simply because that was book formation for a blank sheet of paper or imaginary ground. I do not know anything more useful than cyclists for testing the work of other arms. The other day I told a body of infantry, under a very excellent lieutenant-colonel, to take up a defensive position round Woolwich and to put out outposts all round. I sent the cyclists to attack the different outposts. Of course it was not at all a fair test for the cyclists, because if you know that you must be attacked at a certain place and within a narrow margin at a certain time, reasonably good arrangements will provide against it. The

outposts were remarkably well put out, and I do not think the cyclists would have had a chance of getting in; but I am not at all sure that if for four or five days, at uncertain hours, I had kept on harrying the outposts with a number of cyclists, the army under their protection would have slept quite so safely. If they had been kept awake they would hardly have been quite so fresh as they would have been without that difficulty. Therefore, I feel tolerably sure that for this purpose also a body of cyclists could be trained to be a very useful worry, to put it at its lowest, to any enemy that was engaged in moving up through England.

On that account I am very anxious indeed in fixing the terms on which we try to get together large bodies of cyclist riflemen, that we shall make those terms suitable to the kind of work that the riflemen have to do, and that we shall not tie them down to the conditions we should assume for Volunteers under other circumstances or for Regulars. Nothing can be much worse than regulating your cavalry by infantry rules, or your infantry by cavalry rules, or your artillery by the rules of either. Cyclist riflemen require to be dealt with in accordance with their conditions just as much as the other arms require to be dealt with according to theirs.

The next question is how far you can use large bodies of cyclists. I can only say that I think we had a very fair test in the cycle manœuvres last year. I have gone into that question fully in my report on the manœuvres, and therefore I do not want to do so again. We could not, with the numbers we had, attempt to represent in the same operation the combination between considerable numbers on one road and similar numbers on another road, but we could, by taking the two points as separate problems on different dates, show on one occasion how we should keep up the connection between different roads, and so long as we could keep up that connection and make the movements simultaneously, it did not much matter for that purpose how many there were on each road. Then we put the whole together on a single road to see how many we could work on each. The conviction to which I came was that you could certainly work under the conditions which I propose, with bodies of 1,000 to 2,000 men along the roads, and that you could keep up the connection between them perfectly safely under the necessary conditions, that is to say, that you should have a connecting cross-road both behind and in front of your cycling bodies, and under those circumstances you could deploy between the roads a very valuable force that would give great trouble to an enemy advancing.

Then as to the experience that we derived from them in other respects. There is much to be said about many points, and I should be glad that anyone here who has not seen the report would take the trouble to look at it, so that I may avoid repeating what is discussed in it. But the most interesting experience I myself obtained was the extreme useful-

ness of the body of cyclist Volunteer officers who worked with me. I had a most valuable staff entirely composed, so far as the actual cyclist working was concerned, of Volunteers. My special reason for mentioning that at this moment is that I have here a paper to which I wish to draw attention, because it represents a piece of Volunteer officers' work that I think is too good to be lost sight of. I am not at all sure that there are not many things in it I should treat differently, and should want suggestions upon, but for a piece of thoroughly good military work I think it is as good as it can be. It is about 29 closely-typed pages on the general question of the supply of ammunition for cyclists, the organisation of cyclists, and the clothing and equipment of cyclists, all worked out by Mr. Newington, who was with me as a staff officer during last year's manœuvres, and I hope to hand it over to the Institution so that it may be reproduced. Mr. Newington has now gone to South Africa, where I am sure he will be a very valuable officer.

In the scheme which has been worked out by Mr. Newington I think the basis is laid down of what might be a very valuable force in England. At this moment we have about 80 companies of the Cyclist Volunteers, which will represent, when they are properly trained, a body of 6,000 men which would be extremely valuable. On the principle Mr. Newington has suggested of working local detachments all along the coast, with others in the towns behind them co-operating, I think much more could be done. If encouragement were given to the million cyclists we have in this country now to submit to training, we should have means of delivering at any given point a very much larger body than anything we have yet attained. I believe you could work a body of something like 100,000 men with cycles, on a front where there are a sufficient number of roads, and that they could come in from all directions, North, East, and West, from great distances, to meet any landing that could be made. With that you must have organisation for the supply of the men, and for that I am tolerably convinced you must combine cycles with motors of all kinds. We did that to some extent and it worked successfully.

In the hall you will find sundry things which will interest you. There is Colonel Wallace's equipment, which supplies a means of furnishing ammunition to the cyclists, the best I have ever seen for the supply of infantry in the field. We are able by means of it to get ammunition close up to the fighting line without any trouble at all, by the cycles, and the very equipment in which the ammunition is carried on the cycle can be handed to a man on foot for its actual distribution. There is also a portable boat carried on cycles and the new model of the government cycle.

Finally, I have only to thank you very much for the kindness with which you have borne with me. The one thing I want to suggest is that

we must accept the best help we can get from the patriotic enthusiasm of the country, and not look a gift horse too closely in the mouth. We must take him as we can get him, and put him to the best use of which he is capable.

Lieut.-Colonel E. BALFOUR, commanding 7th V.B. Rifle Brigade (London Scottish):—I find myself somewhat in a difficulty in speaking after General Maurice, because I was acting as his chief staff officer during the cycling manoeuvres which he has partially described in his lecture; but as will appear presently, there is only one very small matter in which I can possibly find myself differing from him, and on that I know he will excuse me stating my views. I cannot say what it means to anyone like myself, who for thirteen years has been studying to get military cycling recognised as a proper arm for home defence and foreign war, to find such an officer as Sir Frederick Maurice assisting it. I do not want to go into the question of the Navy and home defence which he touched upon, because it is my misfortune to have to give a lecture here towards the end of June to the Army League, in which that will have to be dealt with; but there are one or two points on which I might be allowed perhaps to supplement his lecture from my practical experience. The first point I should like to press is one I know my friend Colonel Hale will endorse, viz., the extreme variety of the pace at which military cyclists can go under varying conditions of wind and weather. To every arm of the Service I take it there are objections. Artillery can do this sometimes; they cannot do it at other times; a traction engine may cross a drift, while an ox-wagon may not be able to do the same thing. Therefore everything has its objections and everything has its merits. The real objection to military cycling—and I am a great advocate of it—is the uncertainty of speed. That uncertainty of speed acts in a double way, because, to start with, you have in military cycling an enormous extension from front to rear along each road. That enormous extension is altogether unimportant if rapid concentration is possible; in other words, if I have 2,000 cyclists marching along one road, and I take a yard a man or two yards a man, say 4,000 yards, if those men can close up in a short time they are a sound military body, but if the pace is such, as happened in Essex, that the head of the column, and therefore the tail of the column, could go only 2½ miles an hour, that force cannot concentrate at once. It is a matter of time and space combined, and they act and re-act on each other, and it has to be considered most carefully and to be overcome. It can be overcome. To my mind it is no use minimising the disadvantage of any arm. The great thing rather is to exaggerate it so that the general in command of that arm may be able to know what the worst will be and what the best will be. On Saturday last I was marching in the Wolseley Cup Competition. The distance was one of 40 miles, and the teams 8 men each. They had to ride the 40 miles in four hours, but the conditions were favourable and they rode them in three. There is another point which the lecturer did not touch upon, perhaps because he is not a Volunteer commanding officer, and that is the astonishing regulation which the War Office has issued that no grant is to be given to Volunteer cyclists until there are 60 men in each company. In other words, if I have 59 men I get no grant; if I have 60 men I get £2 a man. It is inconceivable, but it is a fact. The point on which I really have to differ from Sir Frederick Maurice is the question of rifle clubs. Day by day when I drill my men, when I see hedgerow fighting and when I find out what it really all means, I see the absolute necessity of a system—the simplest that you can get in the world—but a system of rigid drill which can be applied in the field. I do not see how to get it out of the system suggested by Sir Frederick; honestly I do not—I wish I could, but I do not see

it. I think there was a little breakdown in our manoeuvres. Hedgerow fighting seems to me more peculiar than any other fighting in the world, requiring more preparation, quiet drill, and the more you are going to practise the attack in wide order, the more necessary it seems to me to have previous practice in carrying things out; and the more intricate the country, that is to say the more hedgerow fighting there is, the greater seems to me to be the necessity.

Major-General Sir FREDERICK MAURICE:—We are not at issue at all. It is only the book drill, which I do not think necessary. I think you must multiply your practice in order to avoid the book drill.

Lieut.-Colonel E. BALFOUR:—There is another very interesting point which we discussed very often, and I confess is very hard to decide, and that is the question of leaving cycles behind. It is a question I fancy myself to be decided in each case, but it requires very careful thought beforehand and requires training for the individual captain to know when he shall leave the cycles behind and when he shall take them on. I just want to tell you one little story of how cyclists may blunder. It was a night attack on Coulsden Common, near Caterham, and I had infantry only. I knew my enemy had a body of cyclists. I told my advance guard to take off their white spats and hang them on their backs so that each man could see the man in front, and then they were to walk in the ditch. They passed the whole of the cyclists on the way, closed upon them and captured the whole of them. There are just two or three points, if I am not trespassing too much upon the audience, I should like to mention. Sir Frederick has mentioned one or two of the tactical employments of cyclists in resisting invasion, and I think I may ask him in reply to suggest five or six more. One he suggested was a great turning movement against the enemy's communications and acting with rapidity, and I think it is very important that this should be impressed on the public. He has frequently alluded to an officer of my corps, Mr. Newington, who was previously Captain Newington, of the Cambridge University Volunteers. Mr. Newington is now in South Africa. A subject which deserves attention, I think, is the rifle attachment, and the Spark-Brook Factory has an extremely good mode of one, which I think the lecturer mentioned in his report.

Colonel LONSDALE HALE (late R.E.):—I speak with some alarm on the present occasion, because I remember some years ago in the old building, when the lecturer was sitting on one side of the theatre and I the other, the lecturer got up and said: "I have listened to Colonel Hale several times in this theatre, and I have never known him speak without his finding fault with something that has been said before." I am going to put before you rather a different view of the use of cycles in the defence of this country from what Sir Frederick Maurice has submitted this afternoon. I think if he formulated his views and took them to the War Office and said "I want to use these 100,000 cyclists, or 6,000, or whatever it is, to stop the landing of an enemy and to delay the advance of an enemy," it would be a good many years before the War Office digested that idea and accepted it. It would be a little bit too novel to them, and there would be a great many cons and very few pros put forward. In this question of the use of cyclists, experience does not tell us much, because the whole subject is new; but those who have followed wars and studied military history cannot but agree that the theatre of war in England is singularly suited to the use of the cycle, and that if we had in this country ten battalions of infantry, 1,000 strong, each capable of transporting themselves over abnormally large distances in an

abnormally short space of time, that 10,000 men would be a very great factor in the defence of this country. I want to lift, if I can, this question away from the low level in which it stands at present, a low level caused by our small experience of cycling, and dealing only with small bodies. We know little about cycling in large bodies. We had a very good trial in Essex, but still not on the scale that is desirable. There are two points which I must insist upon with regard to any trials by cyclists; two things must go hand in hand with cyclists in masses: one is intelligence, and the other the very strictest discipline. It is all very well to talk about a little drill or a little discipline. Nothing of the kind! I went careering over the country in Essex on a motor, and it came to my mind how important discipline is, and how impossible it is to get on without it. I am not talking of officers, but of non-commissioned officers. We know in all Armies in the world the maintenance of discipline by non-commissioned officers is difficult, and still more difficult must it be in the Auxiliary forces; but in these cycling manoeuvres you leave a body of men and in 5 miles you see nobody at all, and then you come across a small party perhaps under a non-commissioned officer, and then there is another 5 miles before you meet anybody else. And unless the men will be thoroughly well disciplined and obey their non-commissioned officers as well as their officers you will come to grief. I am perfectly certain from what I saw of the cycling sections in Essex that you can get 2,000 thoroughly disciplined and well-drilled cyclists from the Volunteer forces. You must have them well drilled, and Colonel Balfour agrees with me there. -There is the simple matter of mounting the cycle; that is drill. I saw a battalion coming from Chelmsford after a 5-mile ride from Bishops Stortford, and I asked the officer how they had got on. He said "Very well, but the nuisance is that some men do not know how to mount. A man who cannot mount his cycle will throw the whole of the column into confusion, and cause an immense amount of lengthening out." There was a team at Bisley the other day, a team which mounted like a German regiment on parade. There must be thorough drill in connection with cycling. But do not let us think of cyclists as patrols, reconnoitring, or performing tactics of their own. They are simply infantry, and are to be used as infantry, and they must regard their cycles merely as a means of getting along quickly. Do not tumble into the old hole into which Colonel Hutton and his infantry tumbled. Do not let us pretend to do what the cavalry can do much better. Let us regard this force, which will play in the defence of this country a certain important part, simply as a large body of infantry soldiers with means of getting along faster than the ordinary infantry soldier.

Lieut.-Colonel C. M. DOUGLAS, V.C., M.D. (Hon. Brigade Surgeon, retired):—I must apologise for appearing somewhat in the character of the shoemaker going beyond his last, in addressing you, but my cycling experiences have been somewhat exceptional. Since 1869, when I began riding on a bone-shaker at Secunderabad in Central India, I have cycled almost continuously up to the present day, so that I can say something as to the capabilities of the machine in helping this work of concentrating forces. As Colonel Hale says, it requires time and trial. Perhaps we may make mistakes; we may occasionally take a wrong road. In the Eastern tale, the patient asks his physician: "Why do you give me medicine for my eyes when I am suffering indigestion from having eaten burnt bread?" "I give you medicine for your eyes," replies the physician, "that you may see better than to eat burnt bread again." So the eye-wash that is given us for having taken a wrong course helps us to see what is right. There is one point I should like to call attention to, and that is, the possibility of cyclists being used to repel isolated attacks on our coasts by armed cruisers, torpedo-boats, etc. The

possibilities of these attacks I think cannot be overlooked if we were at war with a foreign Power. Towards the end of the eighteenth century that unpatriotic Scotchman John Paul (alias Paul Jones) succeeded, I believe rather successfully, in harrying the West Coast of Scotland, and the East Coast also. A little later than that, Sir Walter Scott mentions in his story of the "Antiquary," the consternation that the town of Fairport, St. Andrews, I believe, was thrown into by the reported appearance of a French cruiser in the offing; how the Yeomanry flocked into the town as fast as they could to help in defending the inhabitants against the landing from this cruiser, and, of course, devastating the place. I believe some little manœuvres might be easily arranged to exercise the Volunteers to repel such attacks. I am sure they would gladly give their help, and it would not cause a very great inconvenience or difficulty. That is one of the points I wished to mention. I should like to have said a few words as regards the use of folding cycles for scouts, but those are matters of detail which I believe are extraneous to the lecture. If I could lend any little aid to help to produce a scheme to forward the movement I should think myself fortunate.

Major-General Sir FREDERICK MAURICE, in reply, said:—I may have been wrong about the nature of the wind difficulty in the Easter manœuvres, but those manœuvres seem to me to bring out very forcibly the point that, with a force able to afford to make such a very large circuit as a cyclist body can, it ought to be one of the points to take into account that you should try to get to a position from which you can move down wind during the critical period, instead of up wind. I do not want to criticise the man who was in command, and am only considering it as a cycle study for future use; but it does seem to me to be a distinct point in cycle tactics, that if you are going to attack from north to south, and the wind is from the east, then you should attack from east towards south. If the wind is from the west you should attack the other way.

Lieut.-Colonel E. BALFOUR:—I tried to enquire about that. Colonel Hale was there, but I was not. As far as I can make out, one of the causes of failure was the excessive speed attempted under adverse conditions in the morning, and the men broke down and could only do the 2½ miles an hour later on. I cannot, however, give that as an authoritative statement.

Major-General Sir FREDERICK MAURICE:—My point is that, in nine cases out of ten, if you are going to make an attack from the point A to the point B you will usually have your choice of making that attack by going very nearly down wind or up wind, and it is worth while cyclists sacrificing a great deal to go down wind rather than up wind. For instance, to take the particular case mentioned by Colonel Balfour; the attack was from north to south, and the actual attack was made up wind because the left flank was attacked. If the right flank had been attacked, it would have been down wind.

Lieut.-Colonel E. BALFOUR:—Exactly in the same way as my motor-car driver now prefers to go 6 miles round to 2 if he can avoid a hill.

Major-General Sir FREDERICK MAURICE:—Just as the wind is an extremely important thing in a naval action, so it is an exceedingly important thing in a cycling action.

General J. H. DUNN, Colonel the Duke of Edinburgh's (Wiltshire Regiment):—Surely the commander of the force must get to know the exact rate of pace his cyclists are able to go up wind and down wind, and if he does not make quite sure by practice, as Colonel Hale says, and by perpetually working it out beforehand, he

may be in a tremendous hole if his cyclists only went 2 miles an hour when on another occasion they could go 20 miles in three hours.

Lieut.-Colonel E. BALFOUR :—Under varying conditions the pace may be from $2\frac{1}{2}$ to 16 miles an hour.

Major-General Sir FREDERICK MAURICE :—Perhaps I had better enlarge upon my point. I think for many years past our manœuvres have too much tended to be drill manœuvres, that is to say, however much we call them manœuvres, the one thing we try to do is to make certain attacks either on the flank, or the front, or so on. The essence of war is the use of routes of your own choosing, and amongst the combinations which are very valuable for a cycle is a possibility of your coming down wind instead of going up wind. It is one of the elements that has to be taken into account as a special feature of cyclists as an arm. It does not necessarily follow it is a disadvantage to go at different paces.

Lieut.-Colonel E. BALFOUR :—I live in a hilly country in Scotland, and the valleys all run east and west, the roads are either on ridges or along the valleys, and we have splendid cycling by going with the wind along the bottom of the valley when the wind is on our front on the top of the crests.

Major-General Sir FREDERICK MAURICE :—That is what I mean. Those are points of the greatest possible importance. They do not diminish the value of the cycle, but they do very greatly increase the importance of working out these things in practice.

Colonel LONSDALE HALE :—May I say, as I was present on that occasion, what actually happened? Major Saville determined to attack our left flank. I was with Major Berry and he concentrated well away to the north. He started with two columns on the Saturday, the right column was coming down to attack our left flank, and Major Berry thought if it got through it would sweep our left flank away. The other column was to come and make a demonstration rather to the south-east. The second column could not get along at all; they were the people who could only do the 5 miles in 2 hours, and Major Saville had to give up the attack. His men had done about 40 miles a day before, and he found it was no good trying to do anything more. It struck me that you might arrange all the plans of operations when you go to bed at night; but if the wind changes in the night and you are working with a cycle force, you will have to be rung up and alter all your plans to suit the change of winds. It is undoubtedly one of your weak points. General Dixon, who is here, may remember a day in the cavalry manœuvres on Berkshire Downs, when cyclists went up to the high ground at Wantage and could not get along a yard owing to the tremendous winds that blew across the dykes.

Major-General Sir FREDERICK MAURICE :—That was familiar to me, as I had followed the manœuvres. I quite recognise that those were the facts, but the deduction I draw from them is that when you are dealing with a new arm, you must take those conditions of the new arm into account in the manœuvring. In the days of sailing ships you would not have said that sailing ships were useless for battle, because their pace varied with the wind. You adapted your tactics to take advantage of the wind. Most of the manœuvring in the old naval engagements depended on your use of the wind. So I maintain, as regards the cycle, you must take the wind into account, and you cannot merely move as if you were moving soldiers on horseback or on foot straight to the front or to the flank, but you have to take that element into account in the working of the cycle. That was one of the things I meant by my illustration of "Little Pedlington" and the bed of Procrustes. With regard to the drill, I do not know

whether I have so far failed to convey my meaning as to give the impression that I in the least suggest that drill is not required for such purposes as mounting cycles or moving cycles along the road. I insist on that always, and I do not think you can have too much. The compactness of a body moving along a road depends on the perfection of the drill, and you must work that out in the most rigid manner as drill. What I asserted 30 years ago to be the feature of preparation for modern war, I assert now, that practice must take the place of drill, that you cannot lay down rigidly and precisely what you are going to do nowadays on broken ground, and therefore you want to be perpetually practising what you cannot lay down in the book. That, however, of course applies to the work when the men have dismounted from their cycles. What we want to do, is to be perpetually practising, because what ought to be done cannot be put in a simple way in a book. I do not intend in this lecture to go into details; there are such an enormous number that require consideration—equipment and organisation, and all these things—and therefore, I purposely referred to this paper of Mr. Newington's in which all those questions are dealt with. Turning to what Colonel Hale said, I feel exceedingly flattered that he should have preserved for so many years the memory of any speech that I may have made. As however, he recalls it, I may mention that my retort was not to any attack he had made upon me. I was striking out in defence of Brigadier-General Macdonald, against whom he had thrown me. I only objected to being used as a projectile against a speaker with whom I agreed. He speaks of being able to transfer ten battalions of 1,000 men. I quite recognise the importance of that, but it is not a new thing, because as nobody knows better than Colonel Hale, Napoleon won all his battles in the 1814 campaign by transferring on carts the whole of his Brigade of Guards from side to side between the two rivers. He habitually struck by shifting everyone of his Guards in carts; occasionally by riding and tying. It was by that means that he carried out his rapid movements. Therefore the rapid transfer of infantry is no new thing. But I do think that the habitual use of that powerful strategic weapon has been made much easier by the development of cycles. We have to take into account the fact that whereas through all the ages man has had to depend on himself or on the horse as the only means of movement, now machinery has reached such perfection that man is able to work the machine by itself, and we have to bring it into the practice of war.

The CHAIRMAN (The Duke of Norfolk):—I am asked if I wish to say a few words, but I do not wish to say anything, except to express our thanks to the lecturer and those speakers who have contributed to the excellent debate we have listened to.